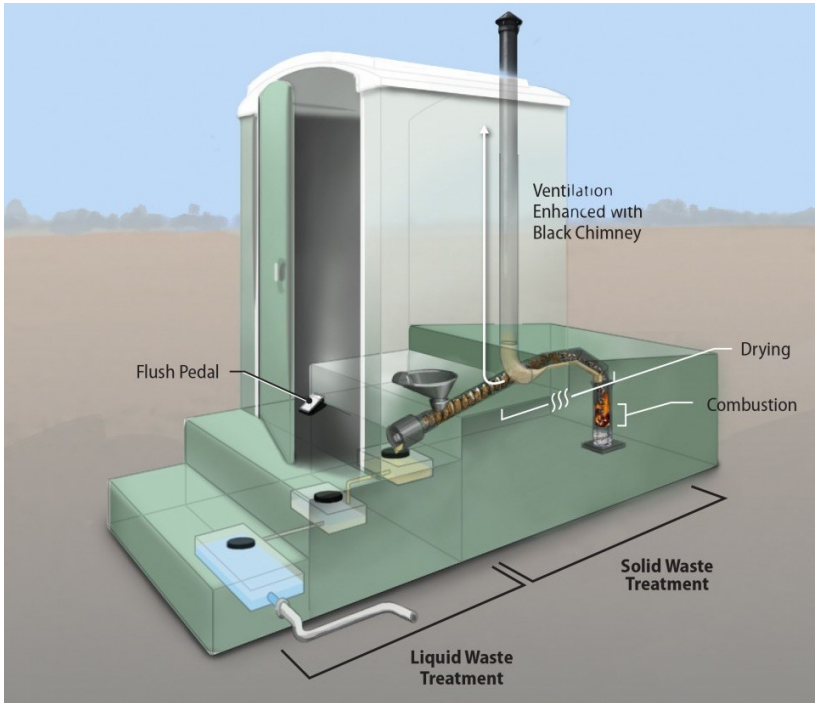
The Wayback Machine - https://web.archive.org/web/20140317082223/http://abettertoilet.org/toilet-technologies/

Our Technology

Video showing the toilet system, how it processes the waste, converts the solids into energy and stores this energy to electrochemically treat the liquid waste



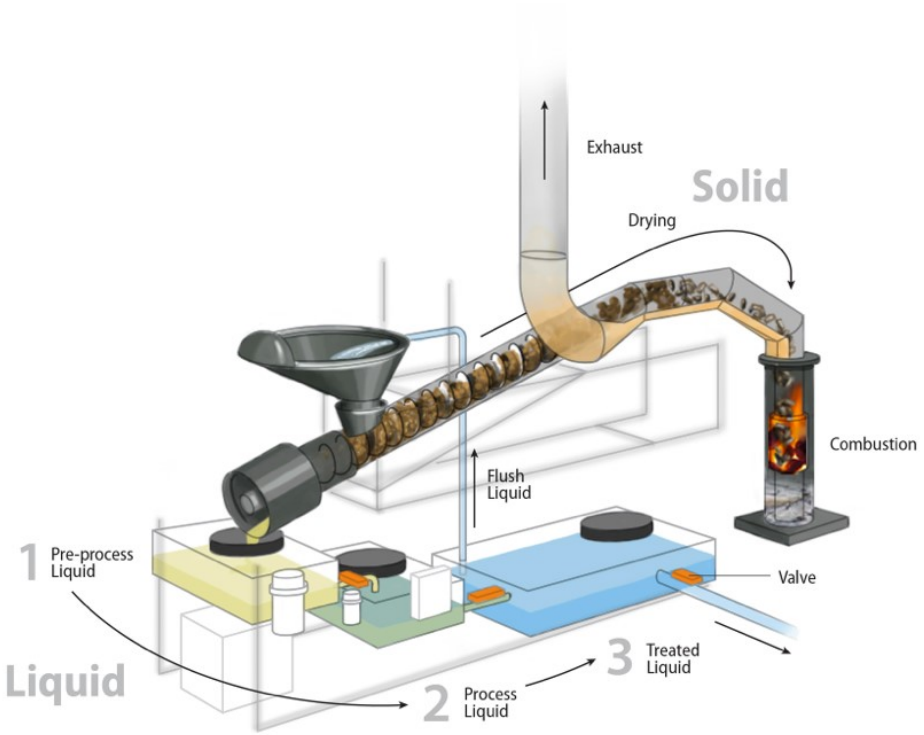
Highlights:

- RTI International is developing a toilet that converts human waste into burnable fuel, stored energy and disinfected, non-potable water
- Novel waste treatment system could help improve public health and quality of life among people in developing nations
- The system will not require piped-in water, a sewer connection or outside electricity

RTI's design will accomplish three primary functions: disinfect liquid waste, dry and burn solid waste, and convert the resulting combustion energy into stored electricity. The system also includes innovations to improve operational utility, energy efficiency and cost.

The solid waste drying process will use a combination of mechanical, solar and thermal energy. A mechanical screw-like device will separate out liquids and begin the process of converting solid waste into combustion fuel. Solar energy, natural drafts and heat from burning waste will further aid the drying process. As it dries, the waste will be broken down into uniform-sized pellets, which will be burned using a novel combustion unit designed by our partners at Colorado State University. This self-powered unit also captures a portion of the heat produced and converts it into electricity.

Liquid waste—including urine and liquid that is removed from the solid waste—will be disinfected through electrochemical processes using carbon electrodes (developed in partnership with Advanced Diamond Technologies, Inc. and Duke University). The disinfected water will be suitable for use as rinse water for the toilet or as a fertilizer supplement.



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